

# MID POWER SPEC Pak®

Sealed Power For Environmental Connections



Marine | Wind Power | Lighting | Transportation | Pumps | Ground Support  
Machine Tool | Industrial Automation | Motor | Solar Power | Harsh Environments



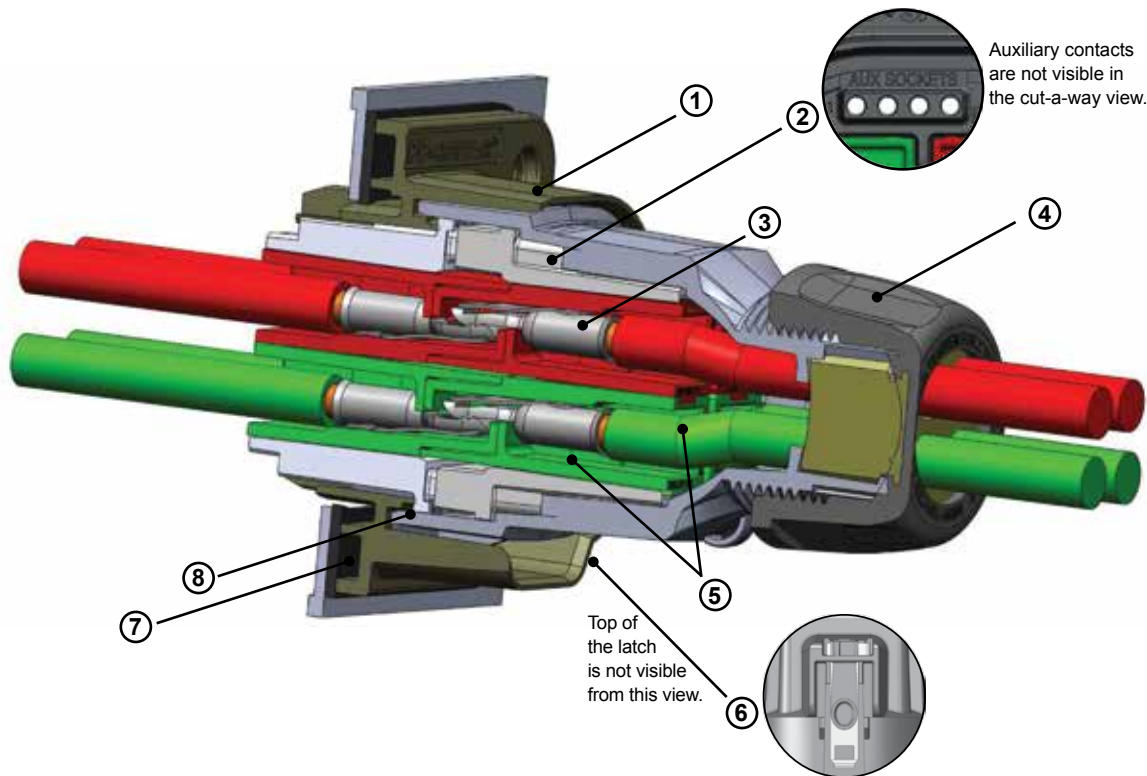
**APP**  
Anderson Power Products®

An IDEAL Company

# Rugged and Sealed (IP68) Plugs and Receptacles

The SPEC Pak® Mid Power is rugged and environmentally sealed (IP68). It leverages APP's core Powerpole® flat wiping contact technology, offering power handling capabilities up to 80 amps at 600 volts with signal.

The SPEC Pak® Mid Power shells are highly configurable. They accept up to four Powerpole® 75 (PP75) contacts and housings. They also accept up to 8 pin and socket auxiliary contacts providing the user signal and/or sequencing options. Assembly is made easy through the use of colored Powerpole® housings which can be matched to wire colors. They will accept wire sizes ranging from 12 to 6 AWG [3.3 to 13.3 mm<sup>2</sup>]. SPEC Pak® Mid Power is highly configurable providing users with a multitude of flexible design solutions in a single interconnect.



## 1 - Chemical & UV Resistant Ruggedized Shells

- Wire to Wire Configurations
- Wire to Panel Configurations

## 2 - Auxiliary Contacts for Signal and/or Sequencing (up to 8)

## 3 - Power Contacts (up to 4)

## 4 - Sealing Gland to Ensures (IP68) Environmental Seal

## 5 - Color Coded Powerpole® Housings to Match Wire Colors

## 6 - Stainless Steel Latches to Prevent Accidental Unmating

## 7 - IP68 Panel Mount Receptacle Gasket

## 8 - Sealing O-Ring Ensures (IP68) Environmental Seal

# Specifications

## ..... SPEC Pak® Shells Used With .....

	SPEC Pak® Shell	Powerpole® Power Contacts & Housings	Auxiliary Contacts <sup>[1]</sup> (PowerMod® Series)
<b>Electrical</b>			
Current Rating (Amperes)			
UL 1977	-	80 <sup>[2]</sup>	5
CSA (30° C Rise)	-	50 <sup>[2]</sup>	5
Voltage Rating			
UL 1977 (AC/DC)	-	600	600
Dielectric Withstanding (AC)	-	3,000	-
Contact Resistance Milliohms (average)	-	0.200 <sup>[3]</sup>	2.000 <sup>[4]</sup>
Hot Plug Amp Rating (UL 1977)			
250 Cycles at 120V	-	50 <sup>[5]</sup>	
<b>Mechanical</b>			
Environmental Seal			
IP rating	IP68	-	-
Submersion (UL 50E)	Pass	-	-
Wire Size	-	12 to 6 AWG	24 to 12 AWG
	-	3.3 to 13.3 mm <sup>2</sup>	0.50 to 2.5 mm <sup>2</sup>
Operating Temperature	-40° to 105° C	-20° to 105° C	-40° to 105° C
	-40° to 221° F	-4° to 221° F	-40° to 221° F
Mating Cycles (no load)			
Silver Plated Contacts	-	1,500	-
Gold Plated Contacts	-	-	1,500
Contact Retention Force	-	> 50 lbf / 222 N	-
Insertion Force	-	28 lbf	
Touch Safe (IEC 60529)	-	IP10	-
Drop Test (UL50E)	Pass	-	-
Panel Break Off (EIA 394-97)	Pass	-	-
Crush Test (EIA 364-40B)	Pass	-	-
<b>Materials</b>			
Shell / Housing	PC/PBT	PC	PC/PBT
Powerpole® Holder	PC/PBT	-	-
Latch	Stainless Steel	-	-
Flammability (UL 94)	V0	V0	V0
Weatherability (UL 764C)	F1	F1	F1
Contacts			
Base	-	Copper Alloy	Copper Alloy
Plating	-	Silver	Gold over Nickel

### NOTES:

1. Integral signal holders that holds up to 8 pins and 8 sockets.
2. Based on 6 AWG.
3. Based on 6 AWG 1-1/4" distance between probes.
4. Based on 20 AWG.
5. Hot Plug testing completed using individual Powerpole® housings and contacts, not installed in SPEC Pak® shells.



For other industry tests and/or agency approvals, contact customer service.

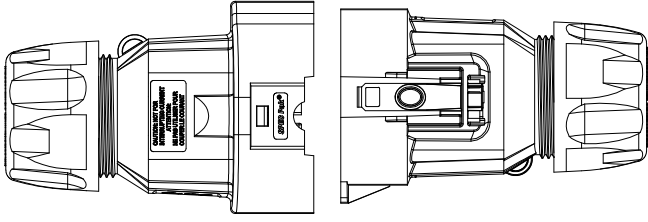
# Product Selection Guide

SPEC Pak® is a highly configurable environmentally sealed connector, that can be purchased as components in bulk for volume production, or pre-packaged as a kit. For convenience, follow the steps below to determine component or kit part numbers.

## | COMPONENT PART NUMBER GUIDE (FOR COMPONENT BULK PURCHASE) |

### Step 1: Select Shell

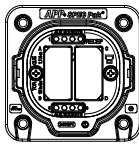
### Step 2: Select Wire Protection



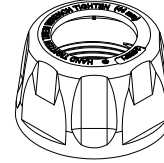
SK6-076C04  
Plug

SK1-076C04  
Inline Receptacle

\* Select Shell Style, from page 6.



SK2-076C04  
Panel Mount Receptacle



\* Define:

	<u>Number of Wires</u>	<u>Wire OD</u>
Wires		
- Discrete	_____	_____
- Bundled	_____	_____

\* Select wire protection that will accommodate the number of wires and outer diameter (OD) of the wire used in your application, from page 6.

\* Wire protection is required for use with inline receptacles and plugs to obtain IP68 seal.

List Component Part Numbers Here:

## | KIT PART NUMBER GUIDE (FOR KITTED CONNECTOR PURCHASE) |

### Step 1 - (see page 6)

SPEC Pak® Series	Shell Color	Shell Style (Select One)	Dash	Shell Size	Insert Arrangement
S	K	1 = Inline Receptacle 2 = Panel Mount Receptacle 6 = Straight Plug 9 = Receptacle Cover 9P = Plug Cover	-	076	C04

List Kit Part Number Here:

Receptacle Kit Part Number:

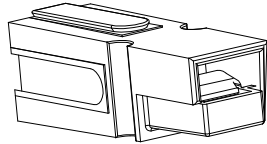
  S          K        \_\_\_\_\_      -        076          C04  

Plug Kit Part Number:

  S          K        \_\_\_\_\_      -        076          C04



### Step 3: Select Housing Arrangement

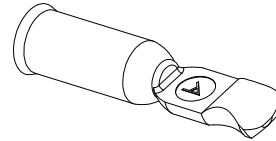


\* Define:

Housing Arrangement	Number of Wires	Number of Auxiliaries
- AC Single Phase	_____	_____
- AC 3 Phase	_____	_____
- DC	_____	_____
- Other	_____	_____

\* Select housing arrangement colors appropriate for your AC or DC application, from page 7.

### Step 4: Select Contacts



Power Contact



Pin Auxiliary Contact



Socket Auxiliary Contact

\* Define:

Contacts	Number of Circuits	Wire Gauge
- Power	_____	_____
- Auxiliary	_____	_____
- Other	_____	_____

Amps (continuous): \_\_\_\_\_ Max amps at \_\_\_\_\_ volts

\* Select power and/or auxiliary contacts appropriate for your wire size (AWG or mm<sup>2</sup>), from page 7.

List Component Part Numbers Here:

Step 2 - (see page 6)	Step 3 - (see page 7)	Step 4 - (see page 7)	Custom
..... Wire Protection .....	.. Housing Arrangement ..	..... Contacts .....	.... APP Content ....
Number of Holes    Cable Sealing Range (Select Two)	(Select One)	(Select One)    Dash	
<div style="background-color: #4a4a8a; color: white; padding: 5px;">00 = None</div> <div style="background-color: #4a4a8a; color: white; padding: 5px;">PS = Plastic Single-hole</div> <div style="background-color: #4a4a8a; color: white; padding: 5px;">PM = Plastic Multi-hole</div> <div style="background-color: #4a4a8a; color: white; padding: 5px;">00 = None</div> <div style="background-color: #4a4a8a; color: white; padding: 5px;">01 - 99 = Various Gland Types (See Page 6)</div>	<div style="background-color: #0056b3; color: white; padding: 5px;">0 = Custom Configuration</div> <div style="background-color: #0056b3; color: white; padding: 5px;">A = AC Single Phase</div> <div style="background-color: #0056b3; color: white; padding: 5px;">B = AC 3 Phase, 3 Wire</div> <div style="background-color: #0056b3; color: white; padding: 5px;">C = DC Circuit, 4 Wire</div> <div style="background-color: #0056b3; color: white; padding: 5px;">Z = All Black</div>	<div style="background-color: #4a4a4a; color: white; padding: 5px;">-</div> <div style="background-color: #8b6914; color: white; padding: 5px;">0 = Custom Configuration</div> <div style="background-color: #8b6914; color: white; padding: 5px;">70 = 1307 Contact for #6 AWG (13.3 mm<sup>2</sup>)</div> <div style="background-color: #8b6914; color: white; padding: 5px;">71 = Please inquire for #8 AWG (8.4 mm<sup>2</sup>)</div> <div style="background-color: #8b6914; color: white; padding: 5px;">72 = 5953 Contact for #10/12 AWG (3.3 to 5.3 mm<sup>2</sup>)</div>	<div style="background-color: #4a4a4a; color: white; padding: 5px;">-</div> <div style="background-color: #4a4a4a; color: white; padding: 5px;">Contact the factory Custom Configuration</div>
_____	_____	_____	_____
_____	_____	_____	_____

NOTE: Panel Mount Receptacle is always "00 00".

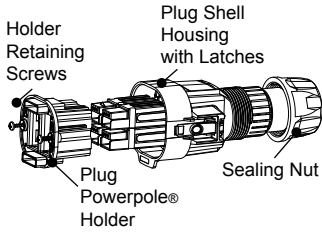
# Ordering Information

## PLUG SHELL KIT

### Part Number & Description

#### SK6-076C04

- Plug shell
- Powerpole® holder - plug
- Powerpole® holder retaining screws M3.5 x 15mm
- Sealing Gland Nut  
(Sealing grommet sold separately)

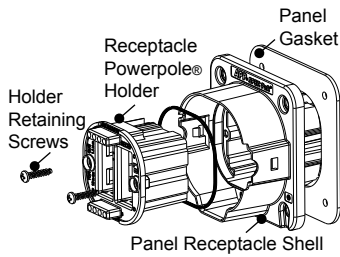


## PANEL MOUNT RECEPTACLE KIT

### Part Number & Description

#### SK2-076C04

- Panel mount receptacle shell
- Powerpole® holder - receptacle
- Panel mount receptacle gasket
- Powerpole® holder retaining screws M3.5 x 15mm

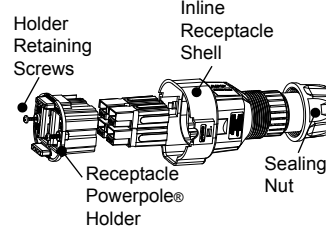


## INLINE RECEPTACLE KIT

### Part Number & Description

#### SK1-076C04

- Inline receptacle shell
- Powerpole® holder - receptacle
- Powerpole® holder retaining screws M3.5 x 15mm
- Sealing Gland Nut  
(Sealing grommet sold separately)



## COVER KIT

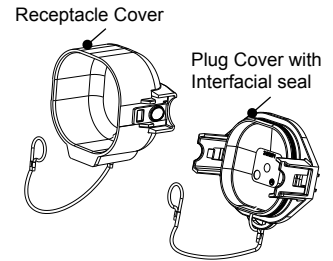
### Part Number & Description

#### SK9-076

- Receptacle Cover Kit
- Cover (IP68) with lanyard

#### SK9P-076

- Plug Cover Kit
- Cover (IP68) with lanyard



## Component Replacement Parts

Part Number	Description
115129P1	Panel Mount Receptacle Gasket
H1120P53	Powerpole holder retaining screws M3.5 x 15mm

### NOTE:

Mounting Hardware (4 each M4 or #8 screws) not included.  
Recommended torque for mounting hardware is 7-10 in-lbs.

## WIRE PROTECTION - CABLE GLAND

### Material

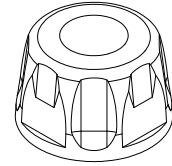
Shell	PBT/PC
Sealing Grommet	EPDM
Flammability (UL 94)	V0
Weatherability (UL 764C)	F1
Color	Black

### Mechanical

IP Rating	IP68
Operating Temperature (UL 1977)	-40° to 105° C -40° to 221° F
Thread Type	Integrated into inline receptacle & plug shells

### Torque Requirements

Hand tighten. Using a 44 mm wrench or strap wrench, tighten an additional 3/4 - 1 turn.



Wire Protection

## Straight Plastic Single & Multi Hole Cable Gland

Number of Holes	Cable Range Wire Outer Diameter mm (in)	Wrench Size Sealing Nut	Protection Designation		Sealing Grommet Only		Sealing Glands (includes sealing grommet & wire protection nut)	
					Part Numbers		Part Numbers	
Minimum Quantity					10	For use with	10	For use with shell kit components purchased in bulk.
1	18.0 - 24.0 mm (0.79" - 0.85")	44	PS	01	B02130P7	SK1-076C04 & SK6-076C04	PS1T40-24X	
2	3.8 - 5.0mm (0.15" - 0.20")	44	PM	21	B02130P12		PS2T40-5X	
2	6.0 - 7.2mm (0.24" - 0.28")	44	PM	22	B02130P11		PS2T40-7X	
2	7.0 - 9.0mm (0.28" - 0.35")	44	PM	23	B02130P10		PS2T40-9X	
3	6.0 - 7.2mm (0.24" - 0.28")	44	PM	32	B02130P5		PS3T40-7X	
3	7.0 - 9.0mm (0.28" - 0.35")	44	PM	33	B02130P4		PS3T40-9X	
4	3.8 - 5.0mm (0.15" - 0.20")	44	PM	41	B02130P3		PS4T40-5X	
4	6.0 - 7.2mm (0.24" - 0.28")	44	PM	42	B02130P2		PS4T40-7X	
4	7.0 - 9.0mm (0.28" - 0.35")	44	PM	43	B02130P1		PS4T40-9X	

# C04 Housing Arrangement

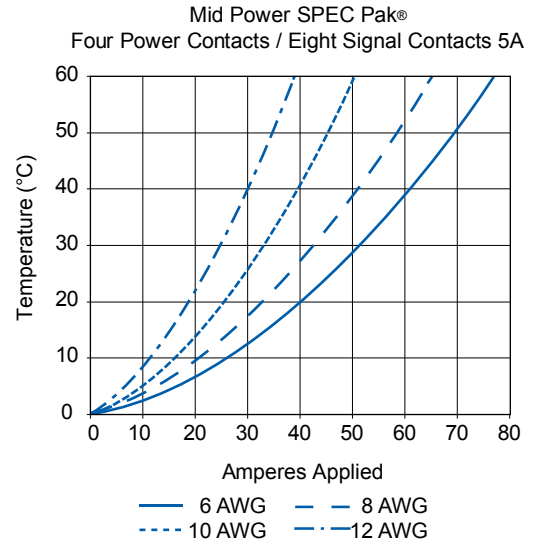
Configured with up to 4 PP75 Contacts - Up to 80 Amps

## | Standard Housing Arrangements |

E = Empty

<b>0</b>	<b>Custom Configuration</b>	
<b>AC Single Phase</b>		
<b>A</b>	5916G4	5916G5
	5916G6	E
<b>AC 3 Phase, 3 Wire</b>		
<b>B</b>	5916G4	5916G5
	5916G7	E
<b>DC 2 Circuit, 4 Wire</b>		
<b>C</b>	5916G4	5916G4
	5916G7	5916G7
<b>All Black</b>		
<b>Z</b>	5916G4	5916G4
	5916G4	5916G4

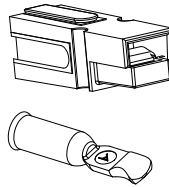
## | TEMPERATURE CHART |



## Ordering Information

### PP75 Standard Power Contacts, Signal Contacts & Housings

Description	----- Part Number -----	
Minimum Quantity ..	1000	100
Red	5916G7-BK	5916G7
Green	5916G6-BK	5916G6
Black	5916G4-BK	5916G4
White	5916G5-BK	5916G5
Blue	5916-BK	5916
Yellow	5916G15-BK	5916G15
Orange	5916G14-BK	5916G14
Gray	5916G16-BK	5916G16



### Spacer & Keying Accessory

Description	----- Part Number -----	
Minimum Quantity .....	1000	100
Red, Short	1399G23-BK	1399G23
Red, Long	1399G21-BK	1399G21

### PP75 Silver Plated Wire Contacts

Type	AWG	mm <sup>2</sup>	Mating Force	-- Part Numbers --	Contact Code Designation	Hand	Pneumatic			
						Tool	Tool	Die	Locator	
Minimum Quantity .....						1000	100			
Individual 6	13.3	Low	1307-BK	1307	70	For use with 6 AWG				
Individual 8	8.4	Low	Please inquire		71	1309G4	1387G1	1388G6	1389G6	
Individual 12 to 10	3.3 to 5.3	Low	5953-BK	5953	72	For use with 12/10 AWG				
						1309G4	1387G1	1388G7	1389G6	

### Auxiliary Contacts (PowerMod® series)

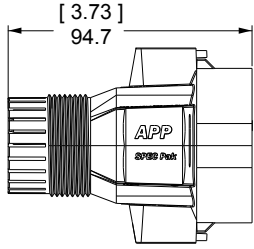
Type	AWG	mm <sup>2</sup>	---- Part Number ---	
Minimum Quantity .....				
Standard Length 7.7mm				
Pin	24 to 20	0.50 to 0.75	PM16P2024S30	PM16P2024S30-50
Pin	20 to 18	0.75 to 1.00	PM16P1620S30	PM16P1620S30-50
Pin	16 to 14	1.00 to 1.5	PM16P1416S30	PM16P1416S30-50
Pin	12	2.50	PM16P12S30	PM16P12S30-50
Pre-Mate 9.3mm				
Pin	24 to 20	0.50 to 0.75	PM16P2024A30	PM16P2024A30-50
Pin	20 to 18	0.75 to 1.00	PM16P1620A30	PM16P1620A30-50
Pin	16 to 14	1.00 to 1.5	PM16P1416A30	PM16P1416A30-50
Pin	12	2.50	PM16P12A30	PM16P12A30-50
Post-Mate 6.4mm				
Pin	24 to 20	0.50 to 0.75	PM16P2024C30	PM16P2024C30-50
Pin	20 to 18	0.75 to 1.00	PM16P1620C30	PM16P1620C30-50
Pin	16 to 14	1.00 to 1.5	PM16P1416C30	PM16P1416C30-50
Pin	12	2.50	PM16P12C30	PM16P12C30-50
Socket	24 to 20	0.25 to 0.50	PM16S2024S32	PM16S2024S32-50
Socket	20 to 16	0.50 to 1.30	PM16S1620S32	PM16S1620S32-50
Socket	16 to 14	1.30 to 2.10	PM16S1416S32	PM16S1416S32-50
Socket	12	2.5	PM16S12S32	PM16S12S32-50

Hand Tool	Hand		Pneumatic	
	Tool	Locator	Tool	Locator
For use with pins				
PM1000G1	TM0001	TL0001	TP0001	TL0001
For use with sockets				
PM1000G1	TM0001	TL0002	TP0002	TL0002

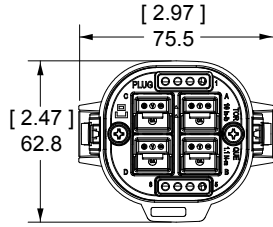
# Dimensions

## | PLUG MID POWER FOR PP75 HOUSINGS |

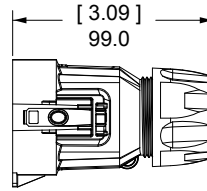
**Top View**



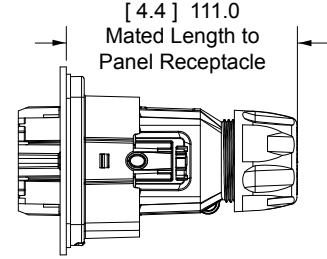
**Front View**



**Side View**

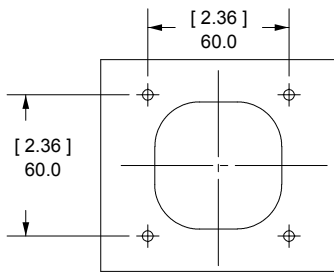


**Mated View**

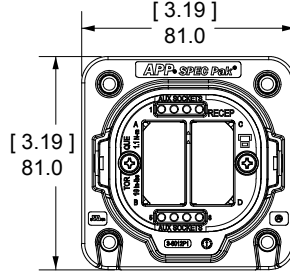


## | PANEL MOUNT RECEPTACLE MID-POWER FOR PP75 |

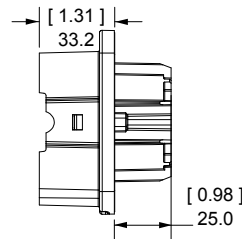
**Panel Cut Out**



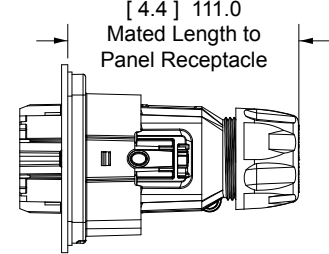
**Front View**



**Side View**

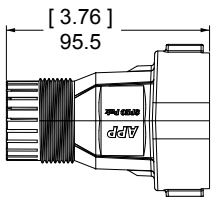


**Mated View**

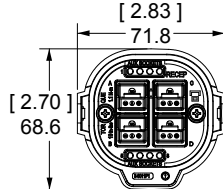


## | INLINE RECEPTACLE MID-POWER FOR PP75 |

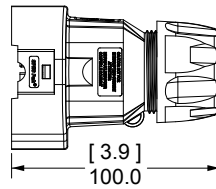
**Top View**



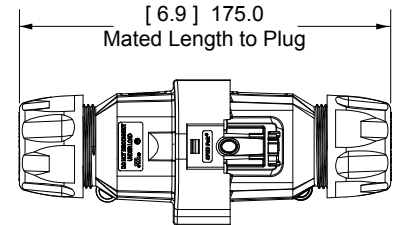
**Front View**



**Side View**

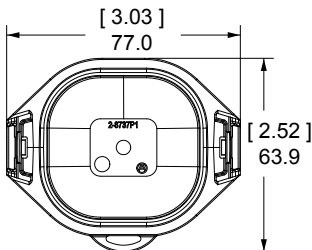


**Mated View**



## | PLUG COVER KIT |

**Front View**

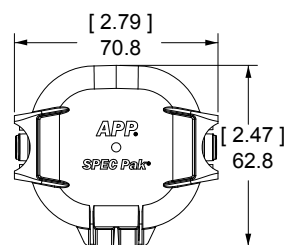


**Side View**

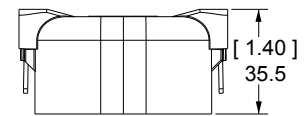


## | RECEPTACLE COVER KIT |

**Front View**



**Side View**



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2017-0005 DS-MPSPAK REV 3

**HEADQUARTERS:** Anderson Power Products®, 13 Pratts Junction Road, Sterling, MA 01564-2305 USA T:978-422-3600 F:978-422-0128 • **EUROPE:** Anderson Power Products® Ltd., Unit 3, Europa Court, Europa Boulevard, Westbrook, Warrington, Cheshire, WA5 7TN United Kingdom T: +44 (0) 1925 428390 F: +44 (0) 1925 520203 • **ASIA / PACIFIC:** IDEAL Anderson Asia Pacific Ltd., Unit 922-928 Topsail Plaza, 11 On Sum Street, Shatin N.T., Hong Kong T: +(852) 2636 0836 F: +(852) 2635 9036 • **CHINA:** IDEAL Anderson Technologies (Shenzhen) Ltd., Block A8 Tantou Western Industrial Park, Songgang Baoan District, Shenzhen, P.R. China 518105 T: +(86) 755 2768 2118 F: +(86) 755 2768 2218 • **TAIWAN:** IDEAL Anderson Asia Pacific Ltd., Taiwan Branch, 4F-2, No.116, Dadun 20th St., Situn District, Taichung City 407, Taiwan (R.O.C.) T: +(886) 4 2310 6451 F: +(886) 4 2310 6460 • [www.andersonpower.com](http://www.andersonpower.com)